

Workshop on Quantum Information Theory and Thermodynamics at the Nanoscale

2 - 6 March 2020, Al-Hoceima, Morocco

The first day of the event will take place at the university (including lunch).
8:45 Bus leaving hotel to University

PRELIMINARY PROGRAMME *

	MONDAY 2 MARCH	TUESDAY 3 MARCH	WEDNESDAY 4 MARCH	THURSDAY 5 MARCH
9:00				
9:05				
9:10				
9:15				
9:20	REGISTRATION for the new comers (at the University)	Nikolay KIESEL Thermodynamics with levitated nanospheres	Daniel BRAUN Dynamics as a Resource in Quantum Metrology: From Quantum Chaotic Sensors to Machine Learning	Jorden SENIOR Heat Transport in Superconducting Quantum Circuits
9:25				
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9:45				
9:50				Junior Talk: Youssef KHLIFI Quantum heat engine (QHE) based on the Heisenberg XXZ model
9:55				Junior Talk: Hicham AIT Mansour Entanglement versus quantum discord in two coupled double quantum dots
10:00	Opening ceremony at the University	Gabriele DE CHIARA Thermodynamics of quantum collisional models	Karol ZYCZKOWSKI Decoherence in the space of quantum operations	Junior Talk: Christelle EKOSSO MANKEM What can thermodynamic properties tell us about the dynamic instability of microtubules?
10:05				
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10:25				
10:30	Coffee Break	Coffee Break	Coffee Break	
10:35				
10:40				
10:45				
10:50				Discussion and closing remarks
10:55				
11:00				
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11:15	Dariusz CHRUSCINSKI Universal spectra of random Lindblad operators	Daniel MANZANO Quantum transport in non-equilibrium lattices.	Gian Luca GIORGI Synchronization and exceptional points in open quantum systems	
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12:00	Robert WHITNEY Non-equilibrium System as a Demon	Bassano VACCHINI Quantum renewal processes	Junior Talk: Oumayma EL BIR Optomechanical correlations under the effect of a thermal environment in a triangular optomechanical cavity	
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12:55	Lunch	Lunch	Lunch	Lunch
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14:40	Andreas BUCHLEITNER Spectral properties, "quantum" phase transitions, localisation and interferences in interacting many-particle systems	Mohammed AZZOUZ Magnetic Transport in Quantum Antiferromagnets and Potential Applications in Spintronics	Web talk: Gonzalo MANZANO PAULE Quantum Martingale Theory for Entropy Production	
14:45				
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15:15	Junior Talk: Khadija EL ANOUZ Different indicators for Markovian and non-Markovian dynamics	Junior Talk: Florette FOBASSO Screening Excitonic State by Plasmons in an Extrinsic Semiconductor: Feynmann Functionality Theory and Grassmannian Formalism	Web talk: Koen BERTEL	
15:20				
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15:40	Coffee Break	Coffee Break		
15:45				
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16:20	Adil BELHAJ On Black Holes and Quantum Information	Mark Mitchison A spin heat engine coupled to a harmonic-oscillator flywheel	Coffee Break	
16:25				
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16:55	Junior Talk: Luuk COOPMANS Optimal transport of Majorana Zero Modes	Junior Talk: Nicolas GIGENA Entanglement in fermion systems		
17:00				
17:05				
17:10		Junior Talk: Zakaria MZAOUALI Quantum Phase Transitions in Phase Space		
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POSTER Session